

# Midwest Forensics Resource Center

Page 1

April 15, 2013

The Midwest Forensics Resource Center at Ames Laboratory is funded through the National Institute of Justice, under interagency agreement number 2009-DI-BX-K206. The Ames Laboratory is operated for the U.S. Department of Energy by Iowa State University, under contract number DE-AC02-07CH11358.

To view past issues of the MFRC Newsletter, please visit [www.ameslab.gov/mfrc](http://www.ameslab.gov/mfrc) and log into Partners Web. If you need help accessing the Partners site, please contact the MFRC office at 515-296-MFRC or email [mfrc@ameslab.gov](mailto:mfrc@ameslab.gov).

## Inside this issue:

News	1
Casework Assistance	1
Training	2
R&D Program	3
Technical Innovations in Management & Infrastructure	3
Contacts	3

## News

### USACIL Sponsored Firearms Error

#### Rate Study:

The MFRC is developing an error rate study for determining false positive and false negative rates in cartridge case examinations. Participation will be open to actively practicing firearms examiners who work at ASCLD member laboratories or who are members of Association of Firearms and Toolmark Examiners (AFTE). Invitations to participate will be circulated through those organizations. Please consider participation if you qualify and you receive the invitation. The study has been delayed somewhat by the current poor availability nationally of center fire ammunition and semiautomatic handguns.

#### Education:

If you have input or suggestions for university based forensic science educational efforts, please contact Todd Zdorkowski at 515-294-5640 or [Zdorkowski@ameslab.gov](mailto:Zdorkowski@ameslab.gov).



Panel discussion led by Bill Marbaker at the 2012 Annual Meeting held in Columbus, OH.

### Midwest Crime Lab Directors

#### Annual Meeting:

The Midwest Crime Lab Directors annual meeting will be held June 25-26, 2013 at the Louisville Marriott Downtown in Louisville, KY. If you have any questions about the annual meeting, please contact Melinda Schlosser at 515-296-6372 or via email at [mschlosser@ameslab.gov](mailto:mschlosser@ameslab.gov).

## Casework Assistance

The MFRC currently receives a constant level of requests for referrals for services. We welcome these inquiries, as well as any requests for other types of consultation or analyses. In addition to providing referrals to existing services, this program is designed to provide free access to new expertise and instrumentation.

If you would like more information, or to discuss the casework assistance program, please let us know. We would be happy to discuss

the program, answer any questions you may have, and walk through the process with you. Stan Bajic, the Casework Assistance Coordinator, can be reached at 515-294-2086 or via email at [sjbajic@ameslab.gov](mailto:sjbajic@ameslab.gov).



Casework Assistance by the MFRC

## Training and Technology Transition

Training and Technology Transition during the last quarter:

### **Fast-GC and the use of Hydrogen as a**

#### **Carrier Gas**

was held February 7, 2013 as a webcast roundtable. The MFRC collaborated with the Forensic Technology Center of Excellence to announce and host this webcast. Four Midwestern panelists spoke from firsthand experience about what has worked and what hasn't in the real world of forensic laboratory operations. The panelists were:

- Shannon George (Toxicology), Illinois State Police R&D Laboratory
- Birjees Kausar (Drug Chemistry), Wisconsin State Crime Laboratory
- Leah Macans (Toxicology), Wisconsin State Crime Laboratory
- Jason Stenzel, PhD (Drug Chemistry) Sioux Falls SD PD Crime Laboratory

The host/facilitator was Peter Stout (Toxicology), Senior Forensic Scientist at RTI, Forensic Technology Center of Excellence

The MFRC collaborated with the Douglas County Sheriff's Office Forensic Science Division to announce a class in forensic art:

### **Introduction to Composite Art**

was held April 8-12, 2013. This class exposed students to all aspects of starting a forensic composite art unit, the tools of the trade, interview techniques specific to the skill, and emphasized the transition of selected reference images from a victim or witness into a composite image with a heightened degree of effectiveness. The class covered 40 hours of training. The instructor was Charles T. Jackson, Patrolman / Forensic Artist.

### **Forensic DNA Mixture Interpretation**

was held April 12, 2013. The live workshop and webcast addressed the interpretation of forensic DNA mixtures in casework. Topics covered included: why working with DNA mixtures is difficult, what approaches are being used around the world to cope with complex mixtures, how validation studies should guide mixture interpretation protocols, and what statistical methods are appropriate in different situations.

Upcoming Events:

### **Emerging Trends in Synthetic Drugs**

will be held April 30 - May 1, 2013. This will be a live training/workshop and webcast. The National Institute of Standards and Technology (NIST) is offering this free workshop & webcast for forensic science professionals. It will explore the emerging trends in designer drug analysis. The three classes of drugs to be discussed are: synthetic cannabinoids, substituted cathinones, and novel hallucinogens.

NIST is partnering with the Drug Enforcement Administration in this and plans to highlight current efforts to regulate synthetic drugs; types of synthetic drugs being encountered across the country; methods employed to validate physical standards for emerging synthetic drugs; different databases available to assist with synthetic drug analysis; current research studies in the synthetic drug analysis arena; and pitfalls commonly encountered during analysis and interpretation.

For more information go to:

[www.nist.gov/oles/synthetic\\_drugs.cfm](http://www.nist.gov/oles/synthetic_drugs.cfm)

### **Measurement Science and Standards in Forensic Handwriting Analysis**

will be held June 4-5, 2013. This is a live training and webcast. The National Institute of Standards and Technology (NIST) is offering this free workshop & webcast for forensic science professionals. It will address advances in the current state-of-the-art in forensic handwriting analysis due to new developments in measurement science and quantitative analysis.

NIST is coordinating the event in collaboration with the American Academy of Forensic Sciences – Questioned Document Section, the American Board of Forensic Document Examiners, the American Society of Questioned Document Examiners, the Federal Bureau of Investigation Laboratory, the National Institute of Justice, and the Scientific Working Group for Forensic Document Examination.

For more information go to:

[www.nist.gov/oles/handwriting.cfm](http://www.nist.gov/oles/handwriting.cfm)

Announcements of future Training and Transition classes and webcasts will be made both via e-mail and via the MFRC homepage, in the Training and Transitions section.



MFRC Training Website  
<https://www.ameslab.gov/mfrc/training>

**Free Measurement and Standards in Forensic Handwriting Analysis webcast to be held June 4-5, 2013.**

## R & D Programs

We are currently funding two research and development projects and recently finished another. The completed project targets the development of a method to determine the significance of associations in the comparison of evidence. Although proof-of-concept in nature, the method developed and validated provides a simple and rapid method to assign statistical confidence in the comparison of two mass spectra. While focusing on an application to controlled substances, the method is equally applicable to mass spectral data obtained for other types of evidence.

The two ongoing projects target the chemical characterization of emerging designer drugs and the development of a new model to study firearms related blood spatter. Both will be completed this summer. Preliminary research results for the two projects look promising and we have confidence that both projects will provide major contributions to forensic science. The project on the chemical characterization of emerging designer drugs, for instance, already has resulted in the submission of several manuscripts for publication in the Journal of the clandestine Laboratory Investigating Chemists Association.

We are currently working on the 2013 version of the R&D Program Summary Booklet. The three projects highlighted will provide a description of the technology or method, the need the project addresses, the project's experimental

design and methodology, partners and collaborators, as well as accomplishments made, benefits derived, and findings disseminated. A brief discussion of plans to continue the research project or to implement the new technology or method is also included.

Besides the three projects mentioned above, the 2013 booklet will include a list of articles published in peer reviewed journals for all projects funded by the MFRC. If you have not received a copy of the 2012 R&D booklet before and are interested in obtaining a copy for your records, please contact Rudi Luyendijk at 515-294-2931 or [rluyendi@ameslab.gov](mailto:rluyendi@ameslab.gov).



2012 Research and Development Program Summary booklet

## Technical Innovations in Management & Infrastructure

In collaboration with Iowa State University and the Minnesota Bureau of Criminal Apprehension Forensic Science Laboratory (BCA) in St. Paul, we are developing an expert system for evidence submission. A prototype for Controlled Substances submittal was uploaded on the Ames Laboratory server and reviewed by BCA evidence technicians and forensic scientists. Their feedback was used to make software modifications and to develop a final ver-

sion of the Evidence Submission Expert System. This version will be transferred to the BCA before the project closes in May.

In the future, we hope to receive comments from the BCA on the use of the system as it can easily be customized for implementation and used by other MFRC partner crime laboratories.

## Contact the MFRC

Director:	David Baldwin	515-294-2069	<a href="mailto:dbaldwin@ameslab.gov">dbaldwin@ameslab.gov</a>
Administration/Events:	Melinda Schlosser	515-296-6372	<a href="mailto:mschlosser@ameslab.gov">mschlosser@ameslab.gov</a>
Casework Assistance:	Stan Bajic	515-294-2086	<a href="mailto:sjbajic@ameslab.gov">sjbajic@ameslab.gov</a>
Training/Education:	Todd Zdorkowski	515-294-5640	<a href="mailto:zdorkowski@ameslab.gov">zdorkowski@ameslab.gov</a>
R&D/TIMI:	Rudi Luyendijk	515-294-2931	<a href="mailto:rluyendi@ameslab.gov">rluyendi@ameslab.gov</a>
General:	MFRC Office	515-296-MFRC	<a href="mailto:mfrc@ameslab.gov">mfrc@ameslab.gov</a>

Midwest Forensics Resource Center  
Ames Laboratory/Iowa State University  
130 Spedding Hall  
Ames, IA 50011-3020

Phone: 515-296-MFRC  
Fax: 515-294-4748  
Email: [mfrc@ameslab.gov](mailto:mfrc@ameslab.gov)



IOWA STATE  
UNIVERSITY.

**MFRC**



**NIJ**